Performance Indicators for Community Health:
a South Australian Discussion Paper

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South Australian Community Health Research Unit

Department of Public Health, Flinders University

Paul Laris and Associates

Adelaide Central Community Health Service
Preface

In recent years Health Service Agreements between the Department of Human Services and community health services have placed a growing emphasis on developing appropriate indicators of performance. The purpose of this discussion paper is to inform and stimulate discussion and debate about performance indicators and how to develop them in a community health setting. We hope that it will be useful for community health workers and managers and the purchasers and funders of community health services.

The report is divided into five sections. Part One provides a brief introduction to community health in South Australia. Part Two considers the development of performance measurement in the public sector and identifies some of the benefits and drawbacks of this approach to accountability. Part Three examines the potential for the use of performance measurement in community health using efficiency, effectiveness and equity as major performance domains. This section then discusses three possible models for a performance measurement framework in the community health sector. Part Four describes some performance measurement tools and techniques currently in use in South Australian community health services. Finally, in Part Five, the key issues in community health performance measurement are summarised and discussed and suggestions made for future practice.

While this discussion paper was being drafted, the SACHRU became a partner in a consortium\(^1\) which reviewed national performance indicators in community health for the Commonwealth government. The literature review and data collection which formed part of the national report both contributed to, and benefited from, this present discussion paper.

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\(^1\) See Acknowledgments page 4 for details of consortium partners
Part One: Introduction and Background to Community Health

The community health sector is under increasing pressure to be accountable to funders and communities for the quality of its services, and to measure the health outcomes that result from its work. This is reflected in the emphasis on performance monitoring in health service agreements (HSA) between the SA Department of Human Services and community health services in the last two years. Under the Government Management Framework (GMF) it is expected that, ultimately, output performance measures will be incorporated into service agreements, with performance measures and targets specified (Department of Treasury and Finance 1996).

Community health services are interested in developing performance measurement as a way to demonstrate the value of community health and primary health care to funders and purchasers. There is some concern that, if performance in the community health sector is not reported on or made visible in the way that it is in the acute hospital sector, then community health will ‘lose out’ in political and budget arenas. The community health sector needs to be pro-active and provide leadership in the move to outcomes and performance measurement so that the philosophy of community health and primary health care is preserved.

In response to these issues, the SA Community Health Research Unit (SACHRU) agreed with the Department of Human Services to undertake a project investigating performance measurement in the community health sector. The project was developed with the following objectives

- To describe the essence of community health services from various perspectives
- To document existing theory and practice in using performance indicators in community health services
- To investigate if and how performance indicators might be valuable in monitoring and evaluation of community health services
- To develop appropriate performance indicators for community health services.

This discussion paper represents one of the first steps in this process.
Community Health in South Australia

Community health includes curative, preventive, social support and health promotion activities for, and with, people in a community setting. Community health practice, as a component of primary health care, is underpinned and informed by the values and principles espoused in the Alma Ata Declaration on Primary Health Care (WHO, 1978), and the Ottawa Charter for Health Promotion (WHO, 1986). In summary these are:

- Recognition of the broad social, economic and environmental determinants of health and illness
- The importance of health promotion and disease prevention
- The importance of community participation in decision making
- The importance of working with a variety of sectors outside of health
- Seeing equity as an important outcome of health service intervention.

In South Australia, community health services are provided by a variety of public sector agencies. Some agencies are stand alone community health centres and others are co-located with other organisations. In metropolitan Adelaide, community health services are provided on the basis of three regions: Adelaide Central Community Health Service; Northern Metropolitan Community Health Service; and Noarlunga Health Services. The Inner Southern Community Health Service, part of Flinders Medical Centre, provides services to the inner southern metropolitan area. Women’s Health Statewide, which is incorporated within the Women’s and Children’s Hospital, is a statewide women’s health service. Community health services in country South Australia make up part of the seven regional health services. These regional health services include their respective hospitals and are managed by Regional Boards.

The services provided by community health are diverse: one-to-one (medical/clinical care and counselling), group programs (health education and support groups) and community development. Many of these activities involve multi-disciplinary teams and use a variety of strategies to protect and promote the health of their defined communities.
Some examples of the types of activities and programs conducted by community health services are shown in Table 1.

Table 1. Examples of community health activities

<table>
<thead>
<tr>
<th>One-to-one Services</th>
<th>Counselling and support</th>
</tr>
</thead>
<tbody>
<tr>
<td>General medical practice</td>
<td>Diabetes/nutrition</td>
</tr>
<tr>
<td>Immunisation</td>
<td>Loss/grief</td>
</tr>
<tr>
<td>Podiatry</td>
<td>Domestic violence</td>
</tr>
<tr>
<td>Speech therapy</td>
<td>Parenting</td>
</tr>
<tr>
<td>Health checks/screenings</td>
<td>Relationships</td>
</tr>
<tr>
<td>Ante-natal shared care</td>
<td>Child sexual abuse</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>Women’s health clinics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group Programs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Support groups</td>
<td>Health education</td>
</tr>
<tr>
<td>Weight disorder/nutrition</td>
<td>Parenting course</td>
</tr>
<tr>
<td>Survivors of child sexual abuse</td>
<td>Osteoporosis</td>
</tr>
<tr>
<td>Post natal depression</td>
<td>Stress management</td>
</tr>
<tr>
<td>Cambodian women’s group</td>
<td>Diabetes education</td>
</tr>
<tr>
<td>Spanish-speaking women’s group</td>
<td>Contraception and sexual health</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community Development (locality/issue based)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental action groups</td>
</tr>
<tr>
<td>Advocacy for policy or legislation change</td>
</tr>
</tbody>
</table>

Recent government reorganisation has combined health, housing and community services portfolios into a broader based Department of Human Services. Within the Metropolitan Division, there is a proposal to establish a Primary Care and Community Support system which aims to integrate planning across a broad range of community-based services and community support activities (van Deth 1999). Community health services in South Australia currently play a significant role in both these areas as illustrated by Table 1 above.

This brief overview has demonstrated the diverse and complex nature of community health. The identification and use of appropriate and useful performance indicators is therefore challenging. This document presents some of the current thinking in performance measurement for community health workers, managers and purchasers, in order to assist with this process.
Part Two: Performance Measurement in the Public Sector

From the 1980s, new public management techniques, modelled largely on private sector management practices, have been introduced by democratic governments worldwide. The intention of these changes is to increase customer responsiveness and efficiency while focusing on outcomes rather than activity.

Associated with these new management practices has been an interest in performance measurement as a result of the shift to market-based economic reforms. A characteristic of these reforms has been the separation of the purchaser from the provider of services, the introduction of competitive tendering and the contracting out of service provision. These arrangements have led to a loss of direct government control of quality and hence the need for increased accountability and performance monitoring (Hall and Rimmer 1994; Shaw 1997).

The following reasons for using performance measurement have been suggested:

• to secure accountability to funders and other stakeholders
• to identify areas of poor performance and centres of excellence
• to help patients and purchasers of health care choose a provider
• to enable providers to focus on areas requiring improvement
• to provide epidemiological and other public health data
• to support decision-making by external key groups
• to support internal quality improvement
• to aid marketing of the organisation (Nutley and Smith 1998; Sofaer 1995).

2 The terms ‘performance measurement’ and ‘performance monitoring’ tend to be used interchangeably in the literature. In this paper ‘performance measurement’ is defined as measuring the performance of a service, agency, organisation or sector by the use of performance indicators for the purpose of accountability. ‘Performance monitoring’ is used to describe performance measurement which is ongoing and used to compare performance over time or with another agency.
It remains unclear whether the use of performance measurement leads to improvement in services. There has been little evaluation of the use of performance indicators to improve decision making (Winston 1993) and very little research on whether the use of performance measurement has an impact on the behaviour of providers (Nutley and Smith 1998). Use of the data to produce league tables of performance undermines consensus and collaboration and performance ranking may affect budgets, job security, staff morale and recruitment (Nutley and Smith 1998).

**Definitions and Uses of Performance Indicators**
A performance indicator is generally defined as a unit of information that is used in the measurement of progress towards a goal or objectives (Hall and Rimmer 1994) and may entail measurement of success in terms of efficiency, effectiveness, and appropriateness (NCOSS 1990). Armstrong (1994) has defined an outcome related performance indicator as

> `a statistic or other unit of information which reflects, directly or indirectly, the performance of a health or welfare intervention, facility, service or system in maintaining or increasing the well being of its target population`.

This definition is important in that it recognises that performance indicators are not just quantitative in nature (statistics) but may encompass other forms of information.

Carter et al (1992) describe three categories of performance indicators in use in government organisations. These are:

- **dials** - prescriptive measurements of input, output and outcomes, focussed on standards or targets. Ideal performance standards are unambiguous, with a clear understanding of what good and bad performance entails. The prescriptive performance indicator is generally a top-down management tool.
- **tin openers** - descriptive performance indicators leading to inquiry and questioning. In practice, performance indicators are often used in this way since it is recognised that they do not provide a complete and accurate picture on their own. The use of
descriptive performance indicators, in contrast to prescriptive dials, involves more negotiation between all levels of the organisation and assumes that performance is a contestable notion.

*alarm bells* - these indicators provide a prescriptive warning of activities or happenings within the organisation that need attention and further investigation.

Carter et al (1992 p2) situate the evolution of performance indicators in the United Kingdom as part of an overall strategy for making evaluation a key feature of public sector management.

*If there is to be value for money, then activities and outputs of government have to be measured; if there is to be more accountability, then there had to be an accepted currency of evaluation; if there is to be decentralisation and blocks of work are to be hived off without loss of control, then there has to be a way of assessing performance.*

The authors state that creating a system of performance indicators is not just a technical exercise. It is inexplicably linked to fundamental questions such as: how do we define the dimensions of performance? what counts as good performance? who determines what is good performance and who is the audience for performance indicators? Sofaer (1995) argues that the selection of performance indicators is inherently value-laden since the indicators themselves represent norms and values, and sets of indicators reflect both the range of societal concerns and priorities.

Several commentators have discussed the links between performance indicators and evaluation. As Sofaer (1995) puts it 'performance indicators, most fundamentally are evaluative criteria. A particular set of indicators represents an explicit statement of expectations for the health care delivery system’ (p. 3). It is therefore no surprise that the literature on performance indicators is linked intimately to issues of evaluation and measurement of (health) outcomes.

A report from the Centre for Health Economics in the United Kingdom (1996) argues that the best use of performance indicators is an internal measurement tool rather than
in evaluation. Winston (1993) also stresses that indicators should be used for monitoring performance rather than for evaluation. Performance monitoring is only a part of evaluation and performance indicators are one source of data for evaluation which may be used to help identify what questions to ask in more searching evaluation exercises. Winston describes two major risks when evaluation is limited to monitoring performance through indicators. Firstly, goal displacement is likely to occur. That is, managers and staff divert their efforts to getting the indicators right at the expense of client and community needs. Secondly, unanticipated events, both positive and negative, remain unaccounted for.

**Benefits of using performance indicators**
Hall and Rimmer (1994) list five main benefits to be gained from using performance indicators in the public sector:

- performance can be compared against inter-industry and international standards or benchmarks, or in their absence, against targets - this is a mechanism for improving quality of goods and services
- performance indicators can impact on strategic planning - by providing managers with information to assist planning, policy development, program design, refinement of objectives, setting targets and standards and allocating resources
- performance indicators encourage leadership and motivation - by an emphasis on outputs and achievements, and feedback on standards achieved
- performance indicators assist in management control - by monitoring standards, early intervention is possible to overcome problems; lines of authority can be strengthened by providing a clear definition of limits based on performance
- performance indicators assist in accountability and evaluation - by publication of annual or periodic reports to a variety of audiences.

**Drawbacks to using performance indicators**
The selection of appropriate performance indicators is difficult in terms of usefulness, validity and reliability. Performance indicators:

- must relate to objectives
- should measure achievement not activity
- should only be derived for things over which the agency has control
• are expressed numerically with some form of comparison eg ratios, percentages
• must be easy to collect and use
• must be able to be readily interpreted by the intended audience
• must be acknowledged as relevant measures
• should not be too costly to implement or use
• should have the direction of desirable movement obvious
• should reflect a cause and effect relationship between output and outcome measures (NC OSS, 1990; Barboza 1997)

Even if appropriate indicators can be identified, there are likely to be difficulties with data collection and analysis. The Second National Report on Health Sector Performance Indicators (National Health Ministers’ Benchmarking Working Group 1998) discusses poor data quality as a barrier to progress in implementing performance measurement in hospital services. It is difficult to develop measures that are sufficiently precise and reliable, and that reflect the underlying concept being measured. For example, patient satisfaction is a complex and hard to measure concept. Some health authorities have been reluctant to provide data which may not be reliable and which may give rise to invalid conclusions. Another drawback of performance data is that they are backward looking and may be outdated by the time they are published (Nutley and Smith 1998).

Winston (1993) suggests the lack of success in putting performance measurement to use in the public sector may reflect the shaky conceptual foundations of the performance indicator movement. For example, Guthrie (1993, cited in Winston 1993) challenges the assumptions that program objectives are given and measurable, and that public sector outputs can be identified and measured.

Other limitations to the use of performance indicators include the existence of interdependent (and sometimes conflicting) organisational objectives and the recognition that organisations may not have full control over their performance (Hall and Rimmer 1994). Monitoring service performance under contracting arrangements tends to favour quantitative measures rather than assessment of quality or the actual or potential impacts of service delivery (Baum 1998a). This may encourage services to
focus on activities which have easily measurable outputs rather than the more complex areas such as community development.

These limitations apply to any form of evaluation, especially in the complex area of community health services, and emphasise the need for contextual information to be included in any evaluation or use of performance indicators in monitoring performance (Baum 1992).
Part 3: Performance Indicators and Community Health Services

In Australia, the interest in performance indicators for the acute health care sector is in providing information to compare individual health units, organisations or systems against a benchmark or standard (National Health Ministers’ Benchmarking Working Group 1998). The Working Group is charged with the task of developing performance indicators in all sectors of the health industry. The first two reports from this group have focused on the acute sector. The Second National Report on Health Sector Performance Indicators (NHMBWG 1998) builds on the first report and focuses on development of performance indicators that can be used for benchmarking. In this report, fewer indicators are used than in the first report because of concerns regarding the quality of available data, and more contextual information is included. The report describes some limitations of benchmarks in that they are not context-free and may only be relevant to a specific. The value of benchmarking is said to be in understanding the reasons for variation and identifying opportunities for improvement.

One of the future directions arising from the Second National Report (NHMBWG 1998) is to extend performance measurement from the acute care setting to the community health setting. The report states that with an increasing emphasis on service substitution and integration, and the growing interest in preventive approaches to health care, the role of community health has become more important. Accordingly, the need for accountability and quality improvement in the provision of community health services has increased. The report outlines some obstacles to be overcome in developing performance indicators for this sector. Community health services

- are more diverse and diffuse in nature than acute care
- are not restricted to institutional boundaries
- often involve an overlap of service programs and providers (NHMBWG 1998).
These factors make it difficult to define and quantify services, and to attribute outcomes to a particular intervention or service. Problems particularly of relevance to the community health sector include:

- complexity of influences on social health and well-being
- developmental nature of much primary health care means that specific objectives may change over time
- diversity of communities, variation in expectations and needs across stakeholder groups
- difficulty of reducing qualitative experiences to a quantitative measure
- difficulty of attribution over a long time scale in a complex environment
- community health/primary health care services have little control over the many factors which impact on health and well-being in their communities.

**Aspects of Performance Measurement**

Performance measurement may be linked to various aspects of organisational performance. The following table gives a definition or description of common terms and examples of how they might apply in a community health setting.

<table>
<thead>
<tr>
<th>Performance Aspects</th>
<th>Description</th>
<th>Health education example</th>
<th>Community development example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>equipment, resources, labour</td>
<td>hours of labour</td>
<td>hours of labour</td>
</tr>
<tr>
<td>Process</td>
<td>activities</td>
<td>running health education sessions</td>
<td>supporting community group, advocacy</td>
</tr>
<tr>
<td>Output</td>
<td>workload, amount of work done, proxy for performance</td>
<td>count of education sessions (predictable, under control of organisation)</td>
<td>measure of resource support provided</td>
</tr>
<tr>
<td>Efficiency</td>
<td>output/input ratio</td>
<td>delivered education sessions per hour labour</td>
<td>measure of resource support per hour of labour</td>
</tr>
<tr>
<td>Outcome</td>
<td>impact, result, achievement,</td>
<td>change in knowledge (not directly controllable by the organisation but influenced by process)</td>
<td>change in community capacity, changes in conditions that determine health status</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>output/outcome ratio</td>
<td>change in knowledge per delivered education session</td>
<td>change in community capacity or conditions per measure of resource support</td>
</tr>
</tbody>
</table>
Measuring effectiveness and efficiency is not, of course, as easy as the above table might suggest. Another important measure for community health services is equity; both in terms of equity of access and equity of outcomes. Some of the issues involved in measuring these aspects of health care are discussed below.

**Measuring efficiency**
Efficiency is measured as the unit cost of a particular output or outcome. The costs of inputs such as staffing, on costs, consumables and capital are attributed to the various outputs and outcomes produced by program. Outputs are usually defined as program products (such as the number education sessions run, the number of clients seen by a social worker or the number of community groups supported by an agency). Outcomes are usually defined in relation to the value or utility of the program outputs for particular individuals, (eg. changes in knowledge or improvement in quality of life). Technical efficiency is evaluated by analysing the unit cost of program outputs. Allocative efficiency is evaluated by analysing the unit cost of program outcomes and is therefore related to effectiveness.

It is generally much simpler to determine unit costs for program outputs than for program outcomes such as reductions in morbidity and mortality, functional gains in activities of daily living, improvements in quality of life and improved productivity. Program outputs may have only partial and variable effects on important outcomes, there may be a long time lag between program outputs and outcomes, and outcomes may be difficult and costly to measure and affected by many other factors. Even where the relationship between program outputs and outcomes is known and there are reliable and valid measures of outcomes, there may be a number of outcomes associated with program outputs (eg. morbidity, functional gain, subjective utility, productivity).

**Measuring effectiveness**
Measurement of effectiveness aims to identify (the extent of) the achievement of the objectives of a program or service. In community health, these often concern changes to knowledge, attitude or behaviour, or change in health status. Quality, appropriateness, equity and access are all aspects which contribute to effectiveness. Assessing achievement of objectives assumes that these are identified and specified,
stable over time, measurable, and not in conflict which each other. In practice this is rarely the case. Different stakeholders often have different desired outcomes: clients and service providers are usually interested in outcomes at an individual level; managers in outcomes aggregated to service level; and funders in outcomes at population level (Lewis 1997). In community-based initiatives, expected outcomes by the key players are likely to change over the course of a program as new stakeholders become involved and expectations become more realistic (Baum 1998b).

Quality is often a poorly defined concept and may include a number of disparate areas for measurement. Examples include patient/client satisfaction, agency accreditation, worker accreditation, and following good practice guidelines. Hawe et al (1990) consider quality issues to be indicators of process which do not measure health outcomes directly but may contribute to making a service more effective.

**Measuring equity**

Equity issues may be concerned with equity of access to resources or services, or to equity of health outcomes. Equitable provision of services requires an agreed measures of access to be analysed for sub-population groups compared with the results for the population as a whole.

Ensuring equity of service provision may conflict with efficiency. For example, in regional South Australia, efficiency measures need to take account of the special circumstances arising from rural and remote areas, the lower density of population and the subsequent higher costs of providing services to rural people.

The work of community health services in Australia are grounded in primary health care principles that stress the importance of tackling inequities in health status. Health inequities arise from social and economic factors, employment, ethnicity, gender, age and location (Baum 1998a). Much of community health work is with disempowered, poor communities and with other disadvantaged groups such as Aboriginal communities and non-English speaking migrants. Equity measures for health status and health outcome require comparison of morbidity and mortality rates for sub-populations within the population as a whole.
Potential Frameworks for Community Health Performance Indicators

The decision about which performance indicators for community health it would be appropriate to adopt and use is partly driven by the broad aims of community health services and of community health. A clear understanding of community health values and principles should guide the development of appropriate performance indicators.

Performance measurement information may be collected at several levels: individual agencies; regional health plans; or system level (state or national). Much of the discussion which follows is about performance indicators at agency level—this of course may be aggregated and fed into higher levels to assess the performance of strategic planning and policy, purchasing decisions and ultimately governments.

Three possible frameworks are described below. These are
1. Adaptation of Acute Care Hospital Framework
2. Primary Health Care Framework
3. Disease/issue Framework

1. Adaptation of Acute Care Hospital Framework
In this model, the framework suggested by the National Health Ministers’ Benchmarking Working Group (1998) for the acute health care sector has been adapted for performance measurement in the community health sector. The acute health care framework is based on a division of performance into two domains: effectiveness (including quality, appropriateness and access/equity) and efficiency. A copy of the framework is included as Appendix A.

To adapt this framework for the community health sector, activity is first divided into two major groups—services for individual clients, (delivered in one-to-one or group situations) and population level activities. These two groups of activities are quite distinct and require different indicators in order to be adequately measured. Under each of these, performance measurement is considered in three major domains: effectiveness, efficiency and equity. Equity has been separated from effectiveness into its own distinct area of performance measurement in this model to reflect conceptual differences in measurement and to emphasis the importance of this area in community health service delivery.
Some examples of performance indicators for individual based services in a community health setting are shown in Table 3.

Table 3. Examples of performance indicators at individual activity level

<table>
<thead>
<tr>
<th>Individual activity level</th>
<th>(eg speech therapy, counselling, diabetes management classes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance Domain</strong></td>
<td><strong>Performance Area</strong></td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Quality</td>
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<tr>
<td></td>
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<td>Appropriateness</td>
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<td>Access</td>
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<tr>
<td>Equity</td>
<td>Access</td>
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<td></td>
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</tr>
<tr>
<td>Outcomes</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>Unit costs</td>
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</tr>
</tbody>
</table>

3 In practice is it rarely possible to identify a valid control group or to attribute change to any particular service or program.
For population level activity the acute framework is less useful and has been supplemented with work on outcome measurement for population level health promotion by Nutbeam (1996). Nutbeam presents a hierarchy of health outcomes for health promotion, with health and social outcomes such as quality of life and mortality at the top.

<table>
<thead>
<tr>
<th>Hierarchy of outcomes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health and social outcomes</strong></td>
<td>Quality of life, functional independence and equity.</td>
</tr>
<tr>
<td></td>
<td>Mortality and morbidity.</td>
</tr>
<tr>
<td><strong>Intermediate health outcomes</strong></td>
<td>Healthy life style, healthy environment and effective health services.</td>
</tr>
<tr>
<td><strong>Health promotion outcomes</strong></td>
<td>Health literacy, social action, healthy public policy and organisational practice.</td>
</tr>
<tr>
<td><strong>Health promotion actions</strong></td>
<td>Education, facilitation, advocacy.</td>
</tr>
</tbody>
</table>

In the community health setting, Nutbeam argues that the health promotion level of outcomes is most closely related to population health promotion activities and therefore the most sensitive to intervention effects and the most likely to be heard above the background noise of community life. Health promotion outcomes are more immediate and thus easier to measure. They go on to have an impact at the intermediate level, which is the most relevant measure of change since outcomes at this level are widely understood and accepted.

Nutbeam (1996) suggests that in order to assess the success of population health promotion activity, attention needs to be given to three types of health promotion outcome: improved personal health literacy, changes to social norms and community actions, and changes to public policies and organisational practices. Nutbeam suggests a number of indicators that assess these outcomes and these have been included as examples in the table below. Other areas and indicators have been added to develop the acute care framework to population activity, see Table 4.
Table 4. Examples of performance indicators at population activity level (based on Nutbeam 1996)

<table>
<thead>
<tr>
<th>Performance Domain</th>
<th>Performance Area</th>
<th>Performance Indicators examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Health literacy</td>
<td>• knowledge&lt;br&gt;• self confidence&lt;br&gt;• attitudes/behaviour intention</td>
</tr>
<tr>
<td>Social action</td>
<td></td>
<td>• community competency&lt;br&gt;• community empowerment</td>
</tr>
<tr>
<td>Healthy public policy</td>
<td></td>
<td>• passage of legislation and regulations&lt;br&gt;• changes to organisation structure/practice&lt;br&gt;• funding and resource allocation</td>
</tr>
<tr>
<td>Empowerment</td>
<td></td>
<td>• see below Table 5</td>
</tr>
<tr>
<td>Capacity building</td>
<td></td>
<td>• see below Table 6</td>
</tr>
<tr>
<td>Equity</td>
<td>Access</td>
<td>• proportion of participants from specified subgroups</td>
</tr>
<tr>
<td></td>
<td>Outcomes</td>
<td>• extent of awareness raising&lt;br&gt;• measures of empowerment</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Public health</td>
<td>• cost per fully immunised child at school entry&lt;br&gt;• cost per screening episode</td>
</tr>
<tr>
<td></td>
<td>Organisational and/or community change</td>
<td>• total cost of community health service support to community group to achieve its objectives&lt;br&gt;• cost for organisation to develop effective mechanisms for community participation</td>
</tr>
</tbody>
</table>

**Empowerment**
A study by Jackson et al (1996) focussed on measurement of empowerment as part of community health development. Six major groups of indicators were developed from a series of focus groups with public health and community development practitioners and presented as part of a web. The focus group participants saw empowerment as an interactive non-linear process. The major groups and a sample indicator for each is shown in Table 5 below.
Table 5. Examples of indicators for empowerment (adapted from Jackson 1996)

<table>
<thead>
<tr>
<th>Major groups</th>
<th>Sample Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of control</td>
<td>Reported or observed improvement in self-concept &amp; sense of control.</td>
</tr>
<tr>
<td>Relations with others</td>
<td>Individuals/family/group/community supports self &amp; others via activities such as policy formation, advocacy or political action.</td>
</tr>
<tr>
<td>Goals</td>
<td>Goal achievement observed &amp; individual/family/group/community expresses sense of accomplishment</td>
</tr>
<tr>
<td>Knowledge and skill development</td>
<td>Individual/family/group/community reports or demonstrates acquisition of new knowledge/skills.</td>
</tr>
<tr>
<td>Resource use</td>
<td>Individual/family/group/community demonstrates effective utilisation of community resources &amp; services.</td>
</tr>
<tr>
<td>Decisions making and problem solving</td>
<td>Individual/family/group/community is able to make decisions (including application to new situations).</td>
</tr>
</tbody>
</table>

A major limitation of the above study was the lack of community involvement. This is addressed in a further study (Jackson et al 1997) which set out to develop indicators of community capacity based on work to be done with community members and community workers in a metropolitan area of Toronto. The initial report of the study suggests that indicators will be based on social, political, subjective and numerical information that "can be fairly readily collected or fairly available in existing data bases at neighbourhood levels" (p.21).

Jackson's research was developed in response to repeated negative media coverage about a particular neighbourhood in Toronto. Developing measures of community capacity was seen as a way to counter this negativity. Community capacity in this study encompasses the collective strengths and talents of people within the community that help things work well, plus the environment and economy outside the community that influence how things work. The intent is to develop preliminary qualitative and quantitative indicators based on detailed descriptions of community capacities.

Capacity Building

The importance of developing measures of capacity building has been highlighted by Hawe et al (1997) in relation to the sustainability of the effect of health promotion.
Hawe et al argue that there has been increased attention paid by health promotion workers to developing strategies that will create an environment which will multiply the health gains of particular programs, through, for example, working with other agencies and developing coalitions. The authors point to indicators for three levels of capacity building, see Table 6.

**Table 6. Examples of indicators of capacity building (from Hawe, et al 1997, p. 34-38)**

<table>
<thead>
<tr>
<th>Level of Capacity Building</th>
<th>Performance Indicator examples</th>
</tr>
</thead>
</table>
| Service development indicators: strategies that create structures that ensure particular activities are carried out | • Community organisation  
• Needs assessment  
• Data gathering  
• Priority setting  
• Comprehensive and integrated interventions  
• Program monitoring and evaluation |
| Indicators of Sustainability | • Extent to which a program’s components and activities are adopted into regular activities of community organisations after intervention is withdrawn |
| Indicators of increased problem solving capacity | • Participation in community affairs  
• Commitment to the community  
• Awareness of each part of the community’s identity and contribution  
• Ability to express collective views and exchange information |

**2. Primary Health Care Principles Framework**

In this model, services report activity and performance under the principles underpinning primary health care. An example this approach is given below, see Table 7.
Table 7 Example of performance indicators for primary health care principles

<table>
<thead>
<tr>
<th>Principle</th>
<th>Performance indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-environmental approach</td>
<td>• Number of programs/activities which take account of socio-economic determinants of health</td>
</tr>
<tr>
<td>Focus on health promotion/illness prevention</td>
<td>• Proportion of budget spent on health promotion/illness prevention</td>
</tr>
<tr>
<td>Participation in planning, implementation and evaluation</td>
<td>• Number and characteristics of people participating</td>
</tr>
<tr>
<td>Intersectoral action for health</td>
<td>• Number and extent of intersectoral relationships</td>
</tr>
<tr>
<td></td>
<td>• Number of programs with input from other sectors</td>
</tr>
<tr>
<td>Equity</td>
<td>• Proportion of clients who are in specified target groups</td>
</tr>
<tr>
<td></td>
<td>• Extent to which services are accessible to disadvantaged groups</td>
</tr>
<tr>
<td></td>
<td>• Extent to which programs are adapted to needs of specific groups</td>
</tr>
</tbody>
</table>

In practice these principles overlap and can be difficult to make sufficiently specific for performance indicator development. However, the Ottawa Charter has been used as a framework for planning in community health (Sanderson and Alexander 1995).

3. Issue/disease framework
In this model, services report against goals and targets for a specific health issue or disease. An example of this approach is described by Maher (1998) who reports on a project to identify performance indicators for a Queensland district community health service. Due to the complexity and breadth of community health work it was decided to focus on the National Health Priority areas (Cancer, Cardiovascular Health, Diabetes, Injury Prevention and Control, Mental Health) and the Queensland Health Corporate Plan in order to identify topics for indicator development. This inevitably led to an emphasis on the biomedical aspects of community health performance. A draft framework for performance indicators was set up using State and national plans, reports and policies to identify what performance indicators were currently used or proposed. The framework categorised indicators under
• health outcome (including risk factor indicators), eg. % of children aged 18 months fully immunised
• health output (including risk factors indicators) eg. number of child health screenings per month per generalist community health nurse and
• service quality (using the Community Health Accreditation Program (CHASP) standards) eg. data systems are in place to monitor immunisation levels.

Maher attempts to link performance indicators for health outcomes, health output and service quality in a particular performance area. Two examples are shown in Table 8 below.

Table 8. Examples of disease indicators

<table>
<thead>
<tr>
<th></th>
<th>Mental health indicators</th>
<th>Cardiovascular disease indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health outcome</td>
<td>reduction of suicide rate</td>
<td>percentage of weight reduction clients maintaining healthy weight after 6 months</td>
</tr>
<tr>
<td>Health output</td>
<td>open caseload per mental health worker</td>
<td>percentage of weight reduction programs available per annum per catchment population</td>
</tr>
<tr>
<td>Service quality</td>
<td>degree to which National Minimum Standards are met</td>
<td>existence of protocols for integrated care of people with CVD and those at risk of developing the disease, by hospital and community based public and private service providers</td>
</tr>
</tbody>
</table>

The report states that a trial of data collection had to be abandoned because
• some indicators required data from external organisations (and this was not forthcoming)
• some statewide data could not be broken down to district level
• a large amount of time was being taken up with manual searches and calculations.

Three workshops were held for clinicians and community health managers to discuss the draft indicators. Despite the workshop discussions resulting in an increase in performance indicators to over 100, many believed that this did not measure adequately what community health does. Workshop participants were also concerned about the question of attribution. The community health service cannot be wholly responsible for health status in the community (nor take all the credit) because of the multiplicity of services and providers, and the many other factors impacting on health outcomes. Another important issue raised was the difficulty of obtaining valid data. The report recommends collection of data in addition to routine service data only as last resort, because of the work involved.
Part Four: Current Performance Measurement in Community Health

There are a number of data collection tools and activities currently in use in SA community health services which have relevance to performance measurement. These are outlined below.

Community Health Accreditation and Standards Program (CHASP)

This accreditation program was set up in 1984 by the Australian Community Health Association (ACHA). The process of accreditation involves a review of the service against a set of standards focussing on processes and structures. The review team is made up of internal and external reviewers and staff and users of the service are widely consulted. The emphasis of the review is as a learning process for the service and appropriate goals are set for improvement and development.

The CHASP standards for community health aim to define and describe the requirements for quality and effectiveness in community/primary health care services. The standards are designed to reflect the principles and values of community/primary health care by:

- encompassing the diversity of its forms of practice
- being multi-disciplinary
- improving quality, not merely assessing it
- addressing service delivery and coordination, planning, policy, management and the relationship with the community served.

In 1998, the 4th edition of the Australian Health and Community Service Standards manual was produced by the Quality Improvement Council (QIP 1998a). The design has been changed to a modular approach in order to make the standards more flexible for use in a variety of community services settings rather than specifically community health services. This change reflects the interest in CHASP as a quality assurance process by services and agencies other than the original community health users. The core module, Health and Community Services, contains six sections similar to the previous edition.
1. Management and leadership
2. Planning, quality improvement and evaluation
3. Training and development
4. Work and its environment
5. Consumer rights
6. Consumer and community participation.

Each section has a Consumer Principle and a Service Principle, and a number of Key Outcomes. Standards and associated indicators are listed for each section. An example is shown below.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Sample Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>The service addresses barriers that discourage access to services</td>
<td>• The service identifies and addresses systematic barriers to access to the service by disadvantaged groups or individuals. • The service ensures consumers have access to accredited interpreter services. • The service facilitates physical access to all of its facilities.</td>
</tr>
</tbody>
</table>

The Community and Primary Health Care Services Module (QIP 1998b) contains Standards relevant to services in these settings. The standards are based on the core concepts of community/primary health care: promoting health as a complete state of physical, social and emotional well-being; principles of social justice and equity; comprehensive program content; participation of people and communities; collaboration and multi-disciplinary approach. There are four sections
1. assessment and care
2. early identification and intervention
3. health promotion
4. records

Each section contains Principles, Key Outcomes, Standards and Indicators. An example is shown below.
The community/primary health care service provides a supportive environment for health promotion practice.

The service demonstrates a commitment to strategic health promotion and best practice. Health promotion is an integral component of all activities of the service. The service involves clients in health promotion programs.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Sample Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>The community/primary health care service provides a supportive environment for health promotion practice.</td>
<td>The service demonstrates a commitment to strategic health promotion and best practice. Health promotion is an integral component of all activities of the service. The service involves clients in health promotion programs.</td>
</tr>
</tbody>
</table>

The new edition claims a greater emphasis on the ‘end result’ rather than structure and processes of the service. Nonetheless, many of the indicators are about processes that contribute to outcomes, rather than outcomes as such. The manual points out that measurement of health outcomes is generally beyond the capacity of a primary health care service and that the focus of the standards is on development of a learning organisation and continuous quality improvement. In addition, measuring the impact of interventions on social health and health promotion is fraught with difficulties.

CHASP provides a nationally consistent system for monitoring quality and other process aspects of community health service delivery. The inclusion of standards and indicators allows individual services to measure their performance against benchmarks for the sector. The proportion of community health services that are accredited under CHASP is a useful performance indicator for health system managers at the state or regional level. CHASP accreditation is included as a quality indicator in current (1998/99) HSAs with community health services.

**Community Health Statistical System (CHSS)**

This statistical data system was initially implemented in metropolitan community health services but is also now used by other community based health services. CHSS collects data on clients and on activities by health workers. A corporate community health data base has been set up from individual site data. The data collected are at output level (number of services delivered) only and the system is unable to report on quality standards or complex activities. This means that interpretation of the statistical information can be problematic. Other limitations include:

- coding inconsistencies across sites
- the (lack of) accuracy of the data entered at the unit level;
- much activity goes unrecorded (one systems manager estimates CHSS only captures 20%-30% of activity);
• the lack of a system for rural areas;
• few people in the central system know about and make use of the corporate data base;
• definitional problems as to what is community health; and
• relative inability to deal with health promotion activities.

Nevertheless, CHSS remains a well-supported package for provision of information on activity level data in community health services. The data generated through CHSS appear to be under-utilised and there is scope for this system to be used more.

**Community Health Information Management Enterprise (CHIME)**

Community Health Information Management Enterprise (CHIME) is a joint venture between NSW Health, Queensland Health, the former South Australian Health Commission and ACT Health and Community Care, and was set up in 1996. This information system for the community based health sector aims to implement an information system that meets clinical and management needs as well as supporting planning and reporting requirements. It is planned to provide a more flexible and coordinated system while reducing the burden of data collection for workers in the field. The design stage is now complete and development is under way with a pilot implementation planned for Module 1. The three modules consist of:

**Module 1:** Client Registration and Maintenance, Service Provider Maintenance, Service Request, Security and Auditing.

The Service Request function includes recording client intake, referral and assessment details, reason for request and outcome of request.

**Module 2:** Service Delivery, Client Management Plans, Resource Management and Program Maintenance.

This module allows recording of all service provider activity including service provision at one-to-one, group or community development level, and non-contact time for planning, training and so on. Details of programs the agency is running or is involved in may also be recorded.
Module 3: Communication Management, Data Collection, Appointment/Scheduling
This module supports non-routine data collection such as surveys.

There is some concern in the field about the future of CHIME, in particular its financial standing and its ability to report on community development activities.

Performance Monitoring in Health Service Agreements
There is an increased emphasis on performance monitoring in the 1998/99 HSA. All the proposed areas for monitoring are process and service delivery orientated rather than outcome orientated. The areas in the Primary Health Care and Statewide Discussion Paper are:

- quality
- activity
- finance
- human resources
- infrastructure

For primary health care services, the Department of Human Services proposes that the CHASP accreditation report forms the basis of the quality monitoring and that selected performance indicators from CHASP are reported on six-monthly, along with progress towards recommendations from the CHASP Review. Agencies also need to report on plans and work practises to support quality improvement, consumer and community participation, continuity of care, and comprehensive care. Performance indicators in the other areas include activity and waiting list data, actual and projected budget data, accrual indicators, human resource reports and Occupational Health and Safety data, and infrastructure assets/costs.

All services are required to report on progress towards a number of critical areas in Aboriginal health. Twelve performance indicators are presented for negotiation with Units/Regions. Examples include;

- The extent to which relevant aspects of SA Aboriginal Health Regional Plans have been incorporated in planning processes.
• The extent to which there are culturally appropriate and affective mechanisms for making complaints regarding the quality of health care and experiences of racism.
• The extent to which the number and proportion of Aboriginal staff have increased at different occupational levels.

**Performance Indicator use by community health services.**
Indicators at this level are dependent upon the key directions for regional community health service level as described in their strategic plans. Examples of these key directions are provided below. The indicators provide a broad measure or milestone of the progress made towards the achievement of the stated outcome.
<table>
<thead>
<tr>
<th>Stated Outcome/Objective</th>
<th>Performance Indicators</th>
<th>Source</th>
</tr>
</thead>
</table>
| “Increased capacity of the health care system and other relevant sectors to respond appropriately and effectively to the health needs of women” | • Extent to which structures and processes are developed to facilitate coordination of responses to women’s health issues  
• Changes in skill and knowledge levels of workers with regard to women’s health issues       | Adelaide Central Community Health Service  
Outcome statement from 1997 Regional Plan (ACCHS, 1997)                                           |
| “To reduce the level of injury and improve the safety of the community”                  | • Levels of reported injury in the region  
• Self reported sense of safety reported by community members, groups and organisations  
• Level of identified safety hazards in the region                                                 | Noarlunga Health Services  
Goal statement from Community Health Plan (NHS, 1996)                                               |
| “Increase staff understanding of the impact of loss and grief on the Aboriginal and Torres Strait Islander communities to ensure services are more culturally appropriate” | • Nature and extent of Aboriginal and Torres Strait Islander services provided  
• Level service use by Aboriginal and Torres Strait Islanders  
• Nature of feedback from Aboriginal and Torres Strait Islander individuals and organisations | Northern Metropolitan Community Health Service  
From the Strategic Directions for the Services to the Community 1998-2000 document (NMCHS, 1998): |
Part Five: Discussion and Conclusions

This paper has explored the meaning and use of performance indicators as they relate to the community health sector. It has found that performance indicators may be useful as one aspect of a broader evaluation enterprise. However, some difficulties and problems have emerged in applying performance measurement to the public sector and particularly to community health services. This conclusion echoes a statement by Winston (1993)

Performance indicators have the potential, when used in conjunction with small-scale, internal evaluations, to promote (using current jargon) accountability and continuous improvement. Alternately, their use can lead to major waste, through lost time, effort and money, poor decision-making and a lowering in the quality of program evaluation. (p.22)

The case for:

Indicators can be used to compare performance against inter-industry and international standards or benchmarks, or in their absence, against targets. They can provide information to assist planning, policy development, program design, refinement of objectives, setting targets and standards and allocating resources.

Performance measurement may assist management control by monitoring standards and providing a vehicle for accountability to various stakeholders. For services and workers, measurement of performance may assist in demonstrating the value of the work that they do to funders and the community. Performance indicators can also be useful as part of a broader evaluation.

The case against:

There are, however, some major issues and challenges in applying performance measurement to community health services and these are canvassed below.

The nature of the beast

At present there is a lack of consistency in understanding about the role and scope of the community health sector. This needs to be clarified at national and state level so...
that policy-driven goals and objectives are established. These can then be used as a foundation for identifying domains of performance and what constitutes ‘good performance’ by all the stakeholders. Only then will it be appropriate to start development of performance indicators.

The complexity of community health, and its philosophical underpinning, have a large impact on the potential for developing appropriate indicators for monitoring and measuring performance. While indicators of mortality and morbidity are fairly well established for use in the medical context, measurement of positive health and well-being still presents a challenge.

There are few recorded examples of the use of performance indicators for impact and outcome measurement in community health. Indicators which on first sight look appropriate turn out to have many flaws and difficulties. Where performance indicators have been developed for community health they tend to be process orientated and focused on quality improvement in service provision. Measurement and monitoring of the processes for primary health care and community health care delivery are well serviced by the CHASP accreditation process and associated indicators. These indicators have been developed to reflect primary health care principles and have been demonstrated as a useful measure of quality in this context. The focus is on partnerships with the community of interest and ongoing quality improvement rather than a one off evaluation. This sits well within a community health philosophy of participation and empowerment.

**Dizzy data**

Performance indicators in the acute care sector have proved difficult to develop and there are many gaps in data availability and quality. Of the nineteen potential indicators listed for acute care hospitals, six have not been developed at all and a further seven are not yet at stage where complete information is collected or available (NHMBWG 1998). The NHMBWG started on this work in 1994 so clearly it is neither a quick nor inexpensive process.
The quality and validity of data collected is of common concern in performance measurement. Compliance in data collection is significantly reliant on the collectors seeing some value in the reporting. There is little value added by data collection currently and providers may feel they are asked to collect and provide data that is not used by anybody.

In the community health sector, a mix of data collection systems has been developed by different states. In South Australia, the main format for data describing community health activity is the Community Health Statistical System (CHSS). Although well-supported in the field, many limitations have been identified and there seem to be few people making use of the information collected.

The Community Health Information Management Enterprise (CHIME) was seen as potentially providing the answer to the problem with the inability of the CHSS to describe or record health promotion and particularly, community development, activity. However, recently there is some doubt about the viability of CHIME and whether it will be able to adequately measure community development activity.

In summary, the activities data for community health relates to inputs and outputs, are inconsistently managed between rural and metropolitan settings, are of uncertain quality and do not adequately describe health promotion activities, especially community development. The system is particularly weak in respect of country community health services where boundaries are blurred between hospital outreach, 1:1 care services and domiciliary care services.

**The three Es**
Traditionally, performance measurement has been around two domains: efficiency and effectiveness. In the community health sector a third ‘E’, equity, is an underpinning principle and it has been suggested in this paper that equity should be included in a performance framework for community health.

Unfortunately there are no universally understood definitions of terms used in performance measurement. Input, output and outcome, and notions of efficiency,
customer service and quality assurance have been borrowed from the private (for-profit) sector without careful consideration of their meaning in a publicly-funded human services setting.

Many would argue that primary health care, and community health, needs to demonstrate efficiency and effectiveness if it is to maintain or increase the proportion of health sector spending. For services targeted to individuals this will be easier than for those activities which are aimed at a population level. There is concern that this later activity may lose out in funding opportunities and priorities if it cannot develop performance indicators to demonstrate the value of what it does.

**Next steps**

This paper is intended to stimulate thinking and discussion about performance measurement in community health. Feedback from readers is encouraged and a feedback sheet is available to facilitate this. The next stage for progressing the discussion will be a forum where stakeholders will have the opportunity to consider issues and questions, and where recommendations will be developed.

Some possible questions for discussion are listed below.

**Performance measurement**
- why measure performance?
- what dimensions of performance should be measured?
- what counts as good performance?
- who determines what is good performance?
- who is the audience for reporting on performance?
- how will performance information be used?

**Complexity of community health**

Performance measurement in the acute health care sector is proving problematic. In the community based services (how) can performance measurement address the following factors?
there is less control over context and setting
there are less clear cut outcomes
often outcomes are long term and preventive
many activities are directed at populations rather than individuals
there are many other determinants of health and well-being apart from primary health care services.

Program/agency objectives
(How) can performance indicators measure achievement of objectives where objectives
• have not been explicitly identified or defined?
• may change over time in response to community need?
• may not be measurable or specific?
• may not be under the control of the agency?

Data collection issues
• what are the (opportunity) costs of data collection?

• what data collection system is needed and will such a system be available in the near future?

• can qualitative performance indicators be developed and reported on?

Resources
• what (additional) resources will be needed to implement a performance measurement system? (eg consultation with the workforce, identification of performance indicators, data collection management, computer software and hardware, education and training, evaluation).
Implications

- what are the implications for community health practice in taking on a performance measurement focus?

- should data be made public?

- what will the results be used for? (eg funding decisions, publication of ‘league tables’)

- what evaluation of a performance measurement scheme is needed?
References

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Centre for Health Economics (1996) Performance Indicators and Health Promotion Targets, Centre for Health Economics, University of York


NCOSS (1990) Performance Indicators for Community Organisations. Council of Social Service of New South Wales


NMCHS (1998) Northern Metropolitan Community Health Services Strategic Directions for the Services to the Community 1998-2000. NMCHS; Adelaide.


Quality Improvement Council (1998a) Australian Health and Community Service Standards: Health and Community Services Core Module. Quality Improvement Council

Quality Improvement Council (1998b) Australian Health and Community Service Standards: Community and Primary Health Care Services Module. Quality Improvement Council


Appendix A

The Final Word
As Michael Crotty would have said ‘a few lines of deathless prose to finish!’

The lack of a coherent national or state policy for community health makes it difficult to agree on what constitutes good performance and therefore to establish accountability measures based on expected achievements. Considerable time and resources will be required by community health service to enable the development of appropriate measures and indicators for this diverse sector.

Winston He stresses that performance indicators are most effective when used to raise questions and least effective when used to allocate blame.
A number of respondents raised the relationship between performance indicators based on the nature of the service delivery agency (i.e., contrasting community health with hospitals) and the broader goal in the health sector of service integration and a focus on populations and clients. It was argued by some respondents that the model being used in mental health, where performance of the whole sector, regardless of the service setting, is being measured and reported, was more likely to promote integration and improved client outcomes.

This approach might also address the concern that improving efficiency in one sector of the health system may reduce efficiency in another sector, without the cause of this being clearly identified. For example, improved hospital efficiency may occur through implementation of early discharge, however early discharge may have consequences for post-acute care services (e.g., HACC). These consequences may manifest in indicators heading in the 'wrong' direction (e.g., increased waiting times).

Alternatives to focussing on different types of health care establishments (e.g., acute hospitals, community health services, residential care), maybe to focus on particular health issues such as mental health. A further approach might be to focus indicators on geographic areas rather than either health issues or health services.
Stages of performance monitoring are usually divided into input, process, output and outcome (see for example Barboza, 1997).

**Figure 1: Framework for Performance Measurement**

Utilisation is determined by quality of outputs and characteristics of client

*Adapted from: Barboza, (1997)*
This linear model is complicated by the realisation that the output from one stage can become the input to the next stage (Winston, 1998).

**Fig. 2 Model of Inputs and Outputs**

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Transformation Stage</th>
<th>Outputs</th>
<th>Evaluation Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>resources</td>
<td>1. INPUT</td>
<td>Plans</td>
<td>-</td>
</tr>
<tr>
<td>ideas</td>
<td></td>
<td>decisions</td>
<td></td>
</tr>
<tr>
<td>funds</td>
<td></td>
<td>budgets</td>
<td></td>
</tr>
<tr>
<td>work</td>
<td>2. PROCESS</td>
<td>completed work</td>
<td>amount of work, number of services provided, quality of services</td>
</tr>
<tr>
<td>waiting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>completed work</td>
<td>3. OUTPUT</td>
<td>immediate change</td>
<td>amount of short term change (impact evaluation)</td>
</tr>
<tr>
<td>immediate change</td>
<td></td>
<td>long term change</td>
<td>amount of long term change (outcome evaluation)</td>
</tr>
</tbody>
</table>

Hall and Rimmer (1994) list the following three aspects of performance indicator measurement:

- **workload** - output, amount of work done
- **efficiency** - economic and productivity, relationship between output and input
- **effectiveness** - outcome measure, result or impact

According to NCOSS (1990), performance indicators measure achievement, not activity. Although these outcomes measures are to be preferred, the difficulties of measurement and interpretation often swing the balance to process variables and therefore back to measures of activity and outputs. Nutley and Smith (1998) state that output data act as a proxy for performance, while Shaw (1997) argues that performance indicators are a proxy for the market focus on efficiency (a measure of outcomes from given resources). Hall and Rimmer (1994) agree that while output and efficiency measures are relatively easy to define and collect, effectiveness (the outcome measure) needs a trial and error approach. In health promotion, outcome indicators may be expressed in terms of policy and educational measures and indirect indicators may be needed, for example, whether a training package is adopted and used (Tones 1992).

Implementation of the South Australian GMF will lead to a requirement for specifying and measuring outputs. In this framework, outputs are defined as goods or services that are produced, provided or acquired for external consumers. Outputs contribute to, and influence, outcomes. Performance measures associated with outputs in this framework are quantity, quality, timeliness and cost (Department of Treasury and Finance 1997).

**Benefits of Performance Indicators**

Nutley and Smith (1998) propose the following reasons for using performance indicators in health services

- to secure accountability to funders and other stakeholders
- to identify areas of poor performance and centres of excellence
• to help patients and purchasers of health care choose a provider
• to enable providers to focus on areas requiring improvement
• to provide epidemiological and other public health data

The main uses of performance indicators then are as part of an internal management process to identify performance issues and what need to be changed, or externally to report on accountability to funders and service users. The assumption here is that the performance indicators developed for the service are both meaningful and useful to all the various stakeholders.

**Drawbacks of Performance Indicators**

The use of outcomes measures and performance indicators in evaluation has the potential to mistake efficiency for quality. Shaw (1997) argues that the provider view of quality is related to outcome and achievement of predetermined goals. Users of services, on the other hand, view quality in terms of process and the service’s responsiveness to their need. A form of evaluation which focuses on economy and efficiency may hide quality loss and resource constraint which in turn hinders organisational goal achievement. For example, economy and efficiency may call for a GP to spend as little time as possible with a patient, so the doctor can see as many people as possible over the day. However, the quality of the service as perceived by the patient would require more time spent with each person. Thus there is a trade off between efficiency and quality.

Other limitations to performance indicators recognised by Hall and Rimmer (1994) include:
• organisational objectives are interdependent, so changes in one indicator may facilitate changes in another
• organisations may not have full control over their performance
• resources may vary between organisations, making efficiency and effectiveness comparisons invalid.
Of particular concern in monitoring health promotion is that outcomes may only become apparent after a long time and this reduces the feasibility of assigning responsibility for meeting targets. A report from the Centre for Health Economics (1996) argues that the best use of performance indicators is as an internal management tool rather than in evaluation.

**Implementing a Performance Monitoring Process**

Nutley and Smith (1998) provide a model of the method for implementing a performance measurement process. The three steps outlined are measurement, analysis, and reporting and action.

**Measurement**

The first step identifies the context in which the organisation exists and what the organisation does (the outputs). The contextual data are used to describe that part of the output that is beyond the control of the organisation and is therefore inappropriate for performance measurement (NCOSS 1990). The output data are used as proxies for performance. Nutley and Smith (1998) argue that outcomes measures are preferred, but the difficulty of measurement and interpretation of these tips the balance to process measures. Users of services judge quality not only in effectiveness but also in terms of satisfaction with process criteria such as accessibility, information provided, ease and pleasantness of use, and redress mechanism. Further, the choice of appropriate outcome measures is dependent on an understanding of the objectives of the service and this is not always clear or agreed on for health promotion. Different indicators are needed for empowerment, positive health and prevention (Nutley and Smith, 1998). Unfortunately the paper does not elaborate on this. It could be argued that service users have insufficient knowledge to form an opinion on the effectiveness of health care as they very seldom have anything to compare their care with nor do they know what is reasonable to expect. This may be why there is a tendency for performance measures to drift towards process which is more easily assessed.
The task of selecting appropriate outcome performance indicators is not easy. NCOSS (1990) present a list of criteria for performance indicators. They should measure achievement rather than activity and should relate to the objectives of the program or service. Performance indicators can only be derived for things over which the agencies have control. They should be easy to collect and use, and must provide useful information. Barboza (1997) states that performance indicators must be able to be readily interpreted by the intended audience, acknowledged as relevant measures and not be too costly to implement or use. In addition, the direction of desirable movement should be obvious and there should be a cause and effect relationship between output and outcome measures.

It would seem to be a Herculean task to find performance indicators which fulfil all these criteria. This is particularly problematic when attempting to measure performance in community health and primary health care services. Problems include:

- difficulty of attribution over a long time scale
- complexity of influences on social health and wellbeing
- developmental nature of much primary health care means that specific objectives may change over time
- diversity of communities, variation in expectations and needs across stake holder groups
- difficulty of reducing qualitative experiences to a quantitative measure
- community health/primary health care services play only a small part in the determination of health status, and these services have little control of the many factors which impact on health and wellbeing in their communities.

The Balanced Score Card (ref) approach to these difficulties is to ensure data are fully representative of the organisation’s activities, but the tendency is still to measure only what is easy to measure. It is also necessary to consider the different sets of users of data. Some would argue that successful implementation of a performance measurement approach depends less on selecting the right measures and more on the way measures are used.
In summary, key issues to consider in the measurement step include:

- performance is multi-dimensional
- different users have different information needs
- many outputs are qualitative
- assessment of performance will be affected by timing
- measures are susceptible to manipulation

**Analysis**

The second step in Nutley and Smith’s (1998) model is analysis. In this stage, reported performance is compared with the norm or standard. This might be developed from previous performance, arbitrary targets set by an external body, or by comparison with similar organisations. The latter infers that a comparing of like with like is possible. However, there are many confounding factors to challenge this assumption, since outputs in health (and particularly in community health) are influenced more by extrinsic factors than those for which the organisation might be accountable.

**Reporting and Action**

The third stage is reporting and acting on the information obtained through analysis. Production and publication of performance data have little purpose if it does not have some impact on the behaviour of the organisation. The nature of the feedback received about performance is a key influence on the organisation’s activities. Use of the data to produce league tables of performance undermines consensus and collaboration.

Performance ranking may affect budgets, job security, staff morale and recruitment. Focusing on only one or two indicators may lead to less attention in other, possibly more important, areas. Another drawback of these performance data is that they are backward looking and may be outdated by the time they are published (Nutley and Smith 1998).
Part Two: Performance Indicators and community health outcomes

Placing Performance Indicators into an Evaluation/Outcomes Framework

In recent years, a number of researchers have developed models of health outcomes that accommodate health promotion and primary health care activity (Legge, et al., 1995; Nutbeam, 1996; King, 1996; SA Community Health Research Unit 1996). These models can inform the types of performance indicators that are useful for the community health sector because of the direct link between performance indicators and outcomes.

What indicators do we use to assess community health services? This question is answered when it is clear at what level there is interest in the performance of such services. What performance indicators are important will relate to where you are located within the system and the perspectives on performance indicators that is taken. Performance indicators that are relevant to community health can exist at a number of levels. These include:

- Principles and values that underpin community health services
- State and national targets
- Community health services provided at a regional and local level

Developing appropriate indicators of performance for community health principles presents a challenge to community health. Some of this challenge is being met by researchers examining appropriate indicators for health promotion.

A long standing challenge has been to define and measure outcome indicators for health promotion that have sufficient relevance and sensitivity to reflect intervention
effects. The five key areas of the Ottawa Charter (building healthy public policy, creating supportive environments, strengthening communities, developing personal skills and reorienting health services) have change as a major component, suggesting that health promotion indicators should be sensitive to such movements. Nutbeam (1996) presents a hierarchy of health outcomes for health promotion with health and social outcomes such as quality of life and mortality at the top.

<table>
<thead>
<tr>
<th>Hierarchy of outcomes</th>
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<tbody>
<tr>
<td>Health and social outcomes</td>
<td>quality of life, functional independence and equity; mortality and morbidity</td>
</tr>
<tr>
<td>Intermediate health outcomes</td>
<td>healthy life style, healthy environment and effective health services</td>
</tr>
<tr>
<td>Health promotion outcomes</td>
<td>health literacy, social action, healthy public policy and organisational practice</td>
</tr>
<tr>
<td>Health promotion actions</td>
<td>education, facilitation, advocacy</td>
</tr>
</tbody>
</table>

Performance indicators could be developed for all these outcome levels but in the community health setting the health promotion outcomes level is most appropriate. The health promotion level of outcomes is most closely related to health promotion activities and therefore the most sensitive to intervention effects and the most likely to be heard above the ‘background noise’ of community life. Health promotion outcomes go on to have an impact at the intermediate level, which is the most relevant measure of change since they are widely understood and accepted. Nutbeam (1997) and Hayes (1990) also distinguish between indicators for health promotion (as a means) and indicators for health (as an end). This distinction supports a focus on process evaluation and health promotion outcomes, such as healthy public policy, as a way to assess to the effectiveness of health promotion interventions.

Nutbeam (1996) suggests that in order to assess the success of health promotion activity, attention needs to be given to three types of health promotion outcome: improved personal health literacy, changes to public policies and organisational
practices and changes to social norms and community actions. Nutbeam suggests a number of indicators that assess these outcomes:
Gillies (1998) emphasises the need to develop indicators of health promotion that capture the varied collective and collaborative health promotion initiatives that exist. Gillies found, through a review of published work on health promotion alliances, that indicators that focus only upon the benefits for individuals fail to capture this. She points to the potential benefits of the development of indicators of social capital, such as trust, reciprocity, shared norms and civic engagement, as measures of the effects of health promotion. Cox (1998) discusses in some detail the development of indicators of social capital. She argues that the development of social capital indicators can “provide benchmarks of social well being” (p. 166) which can assess where in society changes need to be made and whether the changes made are significant. Cox’s measures are replicated in the following table:

<table>
<thead>
<tr>
<th>Measures</th>
<th>Description</th>
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<tbody>
<tr>
<td>1. Unobtrusive measures</td>
<td>Who is accepting responsibilities by compliance with rules, written and unwritten, and by taking responsibility for others? Do people pick up rubbish, obey traffic rules, offer help to strangers, greet each other, help each other, share resources, offer lifts, have their kids immunised, speak out about problems, make sure the kids are cared for, turn up when they promise, fix dripping taps, take part in local activities, share spaces with strangers, take care of self, etc? Who feels hungry or depressed so they opt out, exit mentally or physically and/or react to self destruct, steal, cheat, vandalise, abuse, neglect, commit violence on to others. Road rage, drugs, drunks, etc can be seen as social commentary rather than individual pathologies. As can those who take care and take responsibility for others</td>
</tr>
</tbody>
</table>
2. Measures of attention and wider interest in their society

Who reads the local newspaper, is aware of who runs the council, knows how we are governed, discusses who to vote for, listens to news on the radio or watches it on TV, asks about their community, knows what is needed, who is in trouble and who is doing well? If there is no interest in social change or social issues, there are major problems in expecting people to engage, to use their time in the public sphere for the public good.

3. Sociability and engagement

Measures of social involvement as indicators of skills in sociability as a precondition of developing trust. If people have few skills in building interpersonal relationships, no practice in communicating with others, there are no barriers to social relationships. Therefore social involvements in formal and informal groups offer both indicators of social capital and possible sources of its accumulation.

4. Attitude measures

How people express their feelings. We express that what people say may not equate with their actual behaviour; however their expressed fears and approvals provide indicators of the particular “stories” they have created to explain what is going on and predict what may happen

a) expressed attitudes
b) expressed fears of the other

5. Expectations

Measures of the gap between expressed reasonable desires and the possibilities of achieving these goals. Assessment of sense of efficacy locus of control and trust in social pressures.

6. The multidimensional picture

Relationship between all of the above and the distribution of material and other sources, and access to these by the various players.

Cox explains that these indicators do not replace other “conventional” indicators that exist but assess additional dimensions “which reflect the complexity of living” (p.166)

Jackson et al (1997) report on a study to develop indicators of community capacity based on proposed work to be done with community members and community workers in a metropolitan area of Toronto. The study suggests that indicators will be based on social, political, subjective and numerical information that “can be fairly readily collected or fairly available in existing data bases at neighbourhood levels”. (p. 21). The research was developed in response to repeated negative media coverage about a particular neighbourhood in Toronto, and developing measures of community capacity was seen as a way to counter this negativity.

The importance of developing measures of capacity building has also been highlighted by Hawe et al (1997) in relation to the sustainability of the effect of health promotion. Hawe et al argue that there has been increased attention paid by health
promotion workers to developing strategies that will create an environment which will multiply the health gains of particular programs, through, for example, working with other agencies and developing coalitions. The authors point to indicators for three levels of capacity building:

| Service development indicators: strategies that create structures that ensure particular activities are carried out | • Community organisation  
• Needs assessment  
• Data gathering  
• Priority setting  
• Comprehensive and integrated interventions  
• Program monitoring and evaluation |
<table>
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<tbody>
<tr>
<td>Indicators of sustainability</td>
<td>• Extent to which a program’s components and activities are adopted into regular activities of community organisations after intervention is withdrawn</td>
</tr>
</tbody>
</table>
| Indicators of increased problem solving capacity | • Participation in community affairs  
• Commitment to the community  
• Awareness of each part of the community’s identity and contribution  
• Ability to express collective views and exchange information |


**State and national targets**

The late eighties and nineties have seen the establishment, by many countries, of specific goals and targets as a response to Health For All. Australia and South Australia have also developed such targets (Australian Health Targets and Implementation Committee, 1988; Nutbeam et al, 1993; South Australian Health Commission, 1996).
Buck et al (1997) and Morgan and Ford (1996) report on health promotion indicators for monitoring health targets in the United Kingdom. These indicators are quantitative in nature and focus on health risk factors. In Australia, it has been recognised that two major problems with developing health goals and targets are the move away from a holistic view of health (Baum, 1995) and the enormous number of indicators that this approach generates (Mathers and Douglas, 1998). Even after moving away from setting quantifiable health targets, the current National Health Priority Areas (coronary heart disease, cancer, injury and mental health) the commonwealth government has not moved away from indicators that depict health in negative terms.

National Public Health Indicators (Mathers, 1998) are currently being developed based on:

- Disease, impairment, disability injury
- Determinants - smoking, physical activity etc
- Population groups

Once again, these indicators are quantitative in nature and disease focussed. They are of two types - monitoring indicators to measure progress toward improvements in public health and surveillance indicators which are used to identify health issues that need to be addressed. Mathers and Douglas (1998, p. 125) state that “while there are well validated indicators of disease, the measurement of the impact of disease and of physical, mental, social and spiritual well being as positive constructs has been left almost untouched”. These authors advocate for the development of measures of positive well being and health sustainability that brings together the vast body of research, both in Australia and overseas, that has focussed on broader measures of the quality of human life. These indicators should then be built into a national monitoring and information system in order to assess the progress of the Australian population and population sub groups towards better health and well-being. Mathers and Douglas (1998) suggest the development of indicators of progress in wellbeing fall into the following three major areas:
Physical and psychological wellbeing:
Includes bodily comfort, satisfaction with activity levels, functional capacity and activity, issues related to the physical environment (harshness, security of the environment, level of control over the environment), self esteem, happiness, sense of purpose, being loved and capability of loving, enjoying and appreciating beauty, feeling and sharing sorrow and feeling affirmed and appreciated by others.

Social and spiritual wellbeing:
Includes levels of employment, social support, homelessness violence, divorce, crime, institutionalisation, social interaction, drug use, availability and use of leisure time

Sustainability:
Includes indicators that assess the capacity to sustain what we have now into the future, for example, community use of resources that are not renewable, local quality of air, water and land and the behaviours we engage in to preserve them.

A number of important issues and questions about the application of performance indicators need to be considered by community health workers, managers and purchasers and funders of community health services. These issues are outlined below.

Adequacy and Relevance of the Indicators

- What is a meaningful measure of outcomes in community/primary health care?
- How can performance indicators adequately reflect the rich social context of community/primary health care?
- How can qualitative data be adequately represented by performance indicators?
• Qualitative and quantitative indicators? To what extent should we combine a quantitative/standards approach to indicators and a more qualitative/sensory approach using the knowledge and perception of the local community (Abbott 1990).

Purpose and Use

• Is it clear how the indicators will be used?
• Whom should performance indicators be directed? What is their purpose?
• What aspects of performance matter most to service users? to citizens? to taxpayers? to funders? to providers?

Data Collection Issues

• What are the (opportunity) costs of data collection?
• Are there resources to enable the collection of data that will develop and inform the indicators?

Implications

• How are results of performance measurement presented? Who will interpret results?
• What are the consequences for community health practice?
• How are rewards and punishments in terms of funding tied to results?
• How should managers and workers of community health services be asked to respond to results?
• Should data be made public?
• How can performance measurement schemes be evaluated?
• Should there be formal peer review?
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